ABSTRACT

The longest prefix match method of the invention is based on an enhanced look-up combined with a binary search over the hash tables, which results in reduced average and worst-case lookup times. The lookup involves using a sliding window of a fixed size which separates prefixes into groupings, while reducing the number of prefix lengths that need to be searched. Additionally, the order of prefix lengths searched can be tuned based on statistical traffic measurements in order to further reduce the average case lookup.